

VIII.3.3-STAGEREV STAGE REVIEW OPERATION

Identifier: STAGEREV

Operation Number: 61

Developed by: Northwest River Forecast Center

Parameter Array: The FORTRAN identifier used for the parameter array is P. The contents of the P array are:

<u>Position</u>	<u>Contents</u>
1	Operation version number (integer)
2-19	General name or title (maximum 72 characters)
20	Input time series time interval
21-22	Observed stage time series identifier
23	Observed stage time series data type code
24-25	Forecast stage time series identifier
26	Forecast stage time series data type code
27	Output time series time interval
28-29	Range limit time series identifier
30	Output time series data type code
31-32	Range1 lower limit time series identifier
33-34	Range2 lower limit time series identifier
35-36	Range3 lower limit time series identifier
37-38	Range4 lower limit time series identifier
39-40	Unused

Carryover Array: There is no carryover for this Operation.

Subroutine Names and Functions:

<u>Subroutine</u>	<u>Function</u>
PIN61	Input values, make checks and store values to the P array
TAB61	Make entries into the Operations Table
PRP61	Print information stored in the P array
PUC61	Print run period stage balance information
EX61	Execute the Operation
ABAL61	Compute average daily balances between observed and forecast and print number of values in average daily calculation <u>1</u> /
SBAL61	Print average daily balances <u>2</u> /
RND61	Round gage heights to the nearest tenth foot
RNDH61	Round maximums to next higher half foot and minimums to the next lower half foot

Subroutines PIN61, PRP61, PUC61 have the standard argument lists for subroutines as given in Section VIII.4.3.

Notes:

1/ Routine ABAL61 computes the daily average differences between the observed and computed stage time series. It first determines the computed stage range (maximum stage rounded to next higher half foot-minimum stage rounded to next lower half foot). The computed stage range is equally divided into four stage slices. The division of the hydrograph into slices allows the user greater resolution of recent stage trends or biases. ABAL61 then determines which slice the hourly computed stages belongs and computes a difference (observed - predicted). An average daily balance is produced. Any difference greater than 10 feet is thrown out prior to daily average balance creation. Any slice that does not have values is identified.

Routine ABAL61 prints the number values per average daily balance slice from start time to present.

2/ Routine SBAL61 estimates a balance for any slice with no components. Estimates are determined first by the prior average daily balance in the same stage slice. If this is missing, a priority matrix is followed based on existing surrounding balances. Estimates are indicated with an 'E'.

SUBROUTINE EX61 (PO,HO,HF,RANGE,SBALR1,SBALR2,SBALR3,SBALR4)

Function: This is the execution subroutine for Operation STAGEREV.

Argument List:

<u>Variable</u>	<u>Input/ Output</u>	<u>Type</u>	<u>Dimension</u>	<u>Description</u>
PO	Input	R*4	Variable	Contains parameters and other information
HO	Input	R*4	Variable	Observed stage array
HF	Input	R*4	Variable	Forecast stage array
RANGE	Output	R*4	Variable	Tidal range/slice limits
SBALR1	Output	R*4	Variable	Average daily range1 stage balances array
SBALR2	Output	R*4	Variable	Average daily range2 stage balances array
SBALR3	Output	R*4	Variable	Average daily range3 stage balances array
SBALR4	Output	R*4	Variable	Average daily range4 stage balances array

SUBROUTINE TAB61 (TO,LEFT,IUSET,NXT,LPO,PO,TS,MTS,LWORK,IDT)

Identification: This is the Operations Table entry routine for Operation STAGEREV.

Argument List: The arguments for this subroutine are similar to the arguments for the Operations table entry subroutines for other Operations. A description of the arguments is contained in Section VIII.4.2-TAB.

Operations Table Array: The contents of the TO array are:

<u>Position</u>	<u>Contents</u>
1	Operation number
2	Location of the next Operation in the T array
3	Location of the parameter array for the Operation in the P array
4	Location of the observed stage time series in the D array
5	Location of the forecast stage time series in the D array
6	Location of the range limit time series in the D array
7	Location of the Range1 tide balance time series in the D array
8	Location of the Range2 tide balance time series in the D array
9	Location of the Range3 tide balance time series in the D array
10	Location of the Range4 tide balance time series in the D array